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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/621,825
Filing Date: July 21, 2000
Appellant(s): KANG ET AL.

Mark A. Pellegrini
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 01/27/2010 appealing from the Office action mailed 09/10/2008.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application: claims 1, 5, 9, 11-13, and 18-23.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief. See the below "Claims Appendix" section for limitations, which are **NOT** recited in claims 1 and 5 of the latest amendment filed 05/30/2008.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief. **However, the examiner notes that claims 1 and 5 in the "Claims Appendix" section of the appeal brief filed 01/27/2010 are NOT the same as the amended claims 1 and 5 of the latest amendment filed 05/30/2008 and finally rejected in the Final Office Action dated 09/10/2008**. Specifically, "a frame-shaped reinforcing bracket having a central opening installed on a rear surface of the mold frame" and "an information processing module ... disposed within the central opening of the reinforcing bracket" are NOT in claim 1 of the latest amendment filed 05/30/2008 and "an information processing module ... disposed in a receiving space defined by a reinforcing bracket located on the rear surface of the mold frame" is NOT in claim 5 of the latest amendment filed 05/30/2008.

(8) Evidence Relied Upon

US 5,835,139	YUN et al.	11-1998
US 5,986,726	MURAI	11-1999
US 5,475,381	WILLIAMSON et al.	12-1995

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 5, 9, 11-13, and 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yun et al (USPN: 5,835,139), hereinafter Yun, in view of Murai (USPN: 5,986,726), and further in view of Williamson et al. (USPN: 5,475,381), hereinafter Williamson.

As to **claims 1, 5 and 18**, Yun discloses **a LCD device** (see a LCD device as shown in fig. 7) comprising:

a LCD module (or a monitor unit) (a LCD assembly structure as shown in fig. 6) including:

a backlight assembly (an assembly including elements **110-180**, see fig. 6) having **a light source** (a luminescent lamp **110**, see Fig. 6) and **a rear surface** (a rear surface of a reflector 140 is a rear surface of the backlight assembly; see Fig. 6);

a LCD panel (a liquid crystal panel **300**, see Fig. 6) arranged on the backlight assembly (110-180);

a mold frame (a first support frame **190**, see Fig. 6) receiving the backlight assembly (110-180) and extending over the entire rear surface of the backlight assembly (see Fig. 6); and

a chassis (a second frame support **400**, see Fig. 6) coupled to the mold frame (190) to fix the backlight assembly and the LCD panel therebetween (see Fig. 6; col. 4, lines 48-54);

an information processing module (a driving circuit board **23**; see col. 1, lines 44-48; col. 2, lines 7-20, best seen in Fig. 1) inherently including a video signal processing unit for generating video signals and for providing video signals to the liquid crystal panel via a flexible film (see col. 1, lines 44-48; col. 2, lines 7-20);

a printed circuit board coupled between the information processing nodule (23) and the LCD panel (21) (see Fig. 1), receiving the video signals from the information processing module (23) and generating and providing a gate driving signal and a data driving signal to the LCD panel (21) (Figs. 1 and 6; col. 1, lines 44-48; col. 2, lines 18-20); and

an input unit (a keyboard, see Fig. 5 or 9) provided externally to the monitor unit and inherently connected to an inherent central processing unit (Fig. 5 or 9).

Yun does not disclose expressly that a central processing unit is comprised in the information processing unit.

Accordingly, Yun discloses all limitations of these claims except for the following limitations:

(i) "the mold frame is formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side" of claims 1 and 5;

(ii) "the chassis is formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side" of claims 1 and 5;

(iii/1) "an information processing module is mounted on a rear surface of the mold frame" of claims 1 and 5, and **(iii/2)**, "an information processing module is attached to a rear surface of the mold frame and disposed in a receiving space defined on the rear surface of the mold frame" of claim 18; and

(iv) "the central processing unit is comprised in the information processing unit" of claims 1, 5 and 18.

Regarding to the limitation **(i)**, "the mold frame is formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side," Murai discloses a related information processing apparatus (fig. 5) comprising a mold frame (a frame structure corresponding to the claimed mold frame and defined by the metal sheet 1 and the resin frame 2, col. 4, lines 10-12), that accepts the backlight assembly (7) (figs. 1, 2 and 5, col. 4, lines 10-12) and a LCD panel (5) (figs. 1, 2 and 5, col. 3, lines 64-66), and formed

closely to the rear surface of the backlight assembly, so as to form the mold frame gradually thinner as further advancing from a first side (the side to the left of the light guiding plate 7, as shown in figs. 1 and 5) adjoining the light source toward a second side (the side to the right of the light guiding plate 7) opposite the first side. Further see col. 4, lines 16-39. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify the Yun mold frame formed closely to the rear surface of the backlight assembly, so as to form the mold frame gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side, while maintaining the rear surface of the mold frame still to be rectangular in shape, in view of the teaching in the Murai reference, because this would provide an apparatus with features of small size, thin thickness and light weight, as taught by Murai (col. 2, lines 1-3).

Regarding to the limitation **(ii)**, "the chassis is formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side," while Murai exemplifies only the mold frame formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side and may not exemplify the chassis formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side; however, since the Yun backlight assembly has a wedge shape as viewed from a side, it would have been within the level of skill in the art and obvious to one having ordinary skill to engineering design the shape of the Yun chassis as desired (i.e., the chassis formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side) as the shape of the modified mold frame, which is taught by the Murai reference, and as was

judicially recognized in re Dailey, 149 USPQ 47 (CCPA 1976), because this would provide an apparatus with features of smaller size, thinner thickness and lighter weight, as taught by Murai (col. 2, lines 1-3).

Regarding to the claimed limitation **(iii/1)**, "an information processing module is mounted on a rear surface of the mold frame" of claims 1 and 5, and the limitation **(iii/2)**, "an information processing module is attached to a rear surface of the mold frame and disposed in a receiving space defined on the rear surface of the mold frame" of claim 18, Murai (see Fig. 1) teaches the display device (see Fig. 1) comprising a mold frame (a frame structure corresponding to the claimed mold frame and defined by the metal sheet 1 and the resin frame 2, see Fig. 1, col. 4, lines 10-12), that accepts the backlight assembly (7) (Fig. 1, col. 4, lines 10-12) and a LCD panel (5) (Figs. 1, 2 and 5, col. 3, lines 64-66), and an information processing module (4) attached or mounted to a rear surface of the mold frame (a bottom surface of a metal sheet 1, i.e., a rear surface of the frame structure) (see Figs. 4-5; col. 5, lines 6-9) and disposed in a receiving space defined by a reinforcing bracket (14) integrally formed on the rear surface of the mold frame (1) (Figs. 3-4; col. 4, lines 56-64), for generating and supplying a driving signal to drive LCD panel via the source printed circuit board (a driver circuit provided in peripheral edges of the circuit array substrate, col. 5, lines 40-53). It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to attach or mount the Yun information processing module (23) on a rear plane of the Yun mold frame and dispose the Yun information processing module (23) in a receiving space defined by a reinforcing bracket integrally formed on the rear surface of the mold frame, in view of the teaching in the reference, because this would substantially prevent electromagnetic wave noises generated by a driver

circuit board from interfering with other electronic components, as taught by Murai (see col. 2, lines 8-11).

Regarding to the claimed limitation (**iv**), "the central processing unit is comprised in the information processing unit," Williamson (Figs. 1-2) discloses an information processing apparatus (a computer system; Fig. 1; col. 2, lines 50-60) comprising a LCD device (see Figs. 1 and 2) comprising **an information processing module** (a module including elements 56-59, 61, 70, 71, 73, and 90, see Fig. 2) **including a central processing unit** (a microcontroller 56 such as a central processing unit; see col. 3, lines 27-32) and a video signal processing unit (a LCD controller 58; Fig. 2) for generating appropriate video signal for the LCD display module (52) (see Fig. 2). Williamson further teaches that all elements of the computer system (the claimed information processing apparatus) are all mounted within the casing (10) (Figs. 1-2; col. 3, lines 21-22), thereby reducing the size of the apparatus as small enough to fit into a pocket, as taught by Williamson (col. 2, lines 54-60). Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to utilize Williamson's teaching above in the information processing apparatus of Yun, i.e., locating the Yun central processing unit in the Yun information processing unit, because this would fit all elements in the same casing, thereby reducing the size of the apparatus, which is small enough to fit into a pocket, as taught by Williamson (col. 2, lines 54-60).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to combine Yun, Murai, and Williamson to obtain the inventions defined by claims 1, 5 and 18.

As to **claims 9, 20 and 23**, the Yun apparatus comprises an inherent data storage device for storing or supplying data in response to the control signals from the central processing unit. Yun does not expressly teach the data storage disposed in the information processing module, as presently claimed. However, as noting in figs. 1-2, Williamson discloses data storage (61) disposed in the information processing module. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to locate the data storage in the Yun information processing module, in view of the teaching in the Williamson reference, because this would reduce the size of the apparatus which is small enough to fit into a pocket, as taught by Williamson (col. 2, lines 54-60).

As to claims **11 and 19**, Yun further teaches the LCD module and the information processing module, both fixed together between a front case (520) and a rear case (500) coupled to each other (fig. 7, col. 4, lines 55-65).

As to claims **12 and 21**, Williamson further teaches the storage unit (61) comprising RAMs (62, 63) and ROM (64) (col. 3, lines 38-41).

As to claims **13 and 22**, Williamson further teaches the information processing module further comprising interfacing means for interfacing data with an external information processing module (col. 7, lines 8-10), sound control means (system speaker 72, col. 4, lines 17-19) and communicating means for performing external communication (IR emitter 53 and IR receiver 54, see fig. 2).

(10) Response to Argument

1. Appellant argues that:

> "Yun, as well as Murai, merely indicate the presence of a driving circuit board 23 and 4 (column 2, lines 18-20 of Yun) and (column 4, lines 1-4 of Murai). There is no teaching or suggestion anywhere in either reference that such a driver circuit constitutes or comprises an information processing module

> comprising a central processing unit generating control signals or a video signal processing unit generating video signals. Indeed, since both references relate to portable or "laptop" computers, it is respectfully submitted that both the CPU and the video processor of both references conventionally reside in the main body, e.g., keyboard, of the device (see Background on page 2, lines 2-5 of Applicants' originally filed application). As such, Applicants respectfully submit that the driving circuit boards of Yun and Murai do not correspond to the information processing module of the present invention, but corresponds to the printed circuit board (PCB) of the present invention." See pages 10-11 of the Appeal Brief.

Examiner disagrees because of the following reasons:

(i) The background on page 2, lines 2-5 of Applicants' originally filed specification does not explicitly disclose both the CPU and the video processor of both Yun and Murai references conventionally residing in the main body (note that the examiner couldn't find "Yun" and "Murai" or the corresponding patents in the entire original disclosure of the pending application and the original disclosure does not explicitly disclose that all conventional laptop computers MUST have the CPU and the video processor residing in the main body or keyboard section); and

(ii) In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In the instant case, since Yun discloses the driving circuit board 23 providing the signals to the LCD panel 20 for displaying images, i.e., generating appropriate video signals for the LCD panel 20 to display images, Yun's driving circuit board 23 inherently includes the "claimed" video signal processing unit, thereby rendering the driving circuit board to be considered as an information processing module. Furthermore, the examiner explicitly indicates that Yun does not explicitly disclose the driving circuit board (or the information processing module) including a CPU and Williamson remedies

such deficiency of Yun by disclosing an information processing module including a CPU and a video signal processing unit.

2. Appellant argues that:

> "Furthermore, Applicants' **mold frame and chassis are provided to form a space for receiving the information processing module.** In this regard, there is no suggestion or reasonable expectation to modify Yun or Mural to obtain the technical features as claimed Applicants." See page 11, lines 5-8 of the Appeal Brief.

Examiner disagrees because none of the rejected claims recites "the mold frame and chassis are provided to form a space for receiving the information processing module." Furthermore, the examiner notes that the original disclosure, specifically Fig. 9 and the corresponding specification at page 17, lines 3-9, merely discloses the information processing module 540 disposed in the central opening or the receiving space defined by a reinforcing bracket 539 located on the rear surface of the mold frame 538. However, the original disclosure does not explicitly disclose a space, for receiving the information processing module, formed or defined by **BOTH** the mold frame and chassis, as argued by the appellant.

3. Appellant further argues that:

> "In this regard, as indicated above, Applicants' claimed subject matter includes "an input unit provided externally to the monitor unit and connected to the information. **As such, Applicants claimed subject matter relates**, not to a handheld device, such as Williamson's PDA, **but to portable or laptop computers that conventionally include an externally or rotatably attached main body or input device such a keyboard.** "[F]itting all the elements in the same case, thereby reducing the size of the apparatus, which is small enough to fit into a pocket" is not an objective of Applicants' claimed subject matter. Actually, combining the information processing unit of Williamson within the device of Yun would result, as occurred in Applicants' LCD, in an increase in thickness (page 17, line 20 of Applicants' originally filed application). The only motivation to combine Yun, which relates to portable or laptop device, with Williamson, which relates to handheld devices, is gleaned from impermissible hindsight." See page 11, last paragraph to page 12, line 10 of the Appeal Brief.

Examiner disagrees because none of the rejected claims recites "a laptop computer" and "an externally and **rotatably** attached main body or **keyboard**." as argued by the appellant. Furthermore, the pending application discloses three embodiments, a first embodiment (corresponding to a nonelected species I; see the Requirement for Election of Species dated 02/11/2003) illustrated by Figs. 1-6 and directed to an information processing apparatus, which looks like a conventional laptop computer, a second embodiment (corresponding to an **elected species II**; see the Response to Election of Species dated 03/11/2003) illustrated by Figs. 7-11 and directed to an information processing apparatus, which does not look like a conventional laptop computer, and a third embodiment (corresponding to a nonelected species III; see the Response to Election of Species dated 03/11/2003) illustrated by Figs. 12-16 and directed to an information processing apparatus, which does not look like a conventional laptop computer. In other words, the "claimed" information processing apparatus of the pending claims does not limit to a "laptop" computer as argued by the appellant.

Furthermore, in the instant case, a person of ordinary skill in the art at the time of the invention was made would have been obvious **to utilize Williamson's teaching above** (i.e., locating the central processing unit (56) in the information processing unit (56-59, 61, 70, 71, 73, and 90) so as to fit all elements in the same casing, thereby reducing the size of the apparatus as small enough to fit into a package, as taught by Williamson), in the apparatus of Yun, so that the Yun central processing unit is located in the Yun information processing unit, thereby fitting the central processing unit, the information processing unit, a LCD screen, and other elements in the same casing, and reducing the size of the apparatus, which is small enough to fit into a pocket, as taught by Williamson (col. 2, lines 54-60).

Moreover, a change in the size of a component as desired is generally recognized as being within the level of ordinary skill in the art, see In re Rose, 105 USPQ 237 (CCPA 1955) and In re Reven, 156 USPQ 679 (CCPA 1968) and a change in the location of a component is generally recognized as being within the level of ordinary skill in the art, see In re Japikse, 86 USPQ 70 (CCPA 1950).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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